



Legislative Affairs

Six Beacon Street, Suite 1025 • Boston, Massachusetts 02108
tel 617.523.8448 • fax 617.523.4183 • email beaconhill@massaudubon.org

October 31, 2008

Philip Giudice, Commissioner
Massachusetts Department of Energy Resources (DOER)
100 Cambridge Street, Suite 1020
Boston, MA 02114

Re: *Green Communities Act* (Chapter 169 of the Acts of 2008), comment replies:

Class I Hydro: TransCanada Power Marketing Ltd., comment letter dated October 15, 2008

Class II Hydro: Bay State Hydropower Association, comment letter dated October 15, 2008

Class I and II Hydro: Conservation Law Foundation comment letter dated October 15, 2008

Class I and II Biomass: Ellen Moyer comments dated September 29, 2008

and other comments regarding Hydropower and Biomass

Dear Commissioner Giudice:

Mass Audubon appreciates this opportunity to respond to stakeholder comments to the *Green Communities Act* (Ch. 169 of the Acts of 2008, the “Act”). Recognizing the escalating threat to biodiversity, including humans, posed by fossil fuel consumption, and the environmental degradation brought about by extraction, Mass Audubon strongly supports the development of renewable energy resources as required by the Act. As Massachusetts moves towards increased renewable energy production, it is critical that renewable energy facilities, including new hydroelectric facilities or improvements on existing facilities, do not exacerbate the impact of climate change and other threats to the ecosystem. The following comments are submitted in relation to Renewable Portfolio Standard (RPS) eligibility criteria for Class I and II hydropower and biomass.

Mass Audubon provides recommendations for ensuring that hydropower and biomass facilities will comply fully with the *Green Communities Act* and reasonable safeguards to prevent significant environmental degradation while providing incentives for development of renewable energy sources. We recommend that biomass facilities only qualify for RPS credits to the extent their operations are carbon-neutral and meet other criteria to protect ecosystem service values of Massachusetts forests including but not limited to carbon sequestration capacity.

We also request that outreach to the environmental community regarding these regulations be increased, and that the notice of availability of the draft regulations and comment period be posted in the *Environmental Monitor*.

Hydropower

Massachusetts has over 3,000 dams, with Worcester County having the highest concentration of dams in the country. While this presents an opportunity for hydroelectric generation, it also means that Massachusetts’ riverine habitat is some of the most fragmented in the country. The development and application of site-specific environmental criteria, coupled with the inclusion of hydropower in the RPS, gives Massachusetts the incentives and opportunity to develop hydropower in a more environmentally sensitive manner. Prior to the *Green Communities Act*, hydropower was not included in the RPS, in part as dams and water level management are

recognized for their serious environmental impacts. Dam construction, subsequent upstream flooding and bank erosion, and downstream starving, scouring, and erosion, as well as blockage of the movement of aquatic organisms give hydropower a very significant environmental footprint. Removal or reconfiguration of dams is recognized as an important adaptive management strategy in regards to climate change.

Mass Audubon was pleased that the final Act included strong language guiding careful review of new or upgraded hydroelectric facilities.

Section 32 of the Green Communities Act amended Section 11F(c) and (d) of the RPS Provisions under MGL Ch. 25A, Class I and II environmental criteria for new hydroelectric facilities or increased capacity or efficiency improvements for existing facilities:

“ (i) each such new facility or increased capacity or efficiency at each such existing facility must meet appropriate and site-specific standards that address adequate and healthy river flows, water quality standards, fish passage and protection measures and mitigation and enhancement opportunities in the impacted watershed as determined by the department in consultation with relevant state and federal agencies having oversight and jurisdiction over hydropower facilities; ”

In relation to these requirements, Mass Audubon offers the following comments and suggestions:

- 1. Mass Audubon supports the recommendations of the Conservation Law Foundation** that the revised RPS standards require that Class I and II hydroelectric facilities meet environmental hydro facility impact standards such as those developed by the Low Impact Hydropower Institute (LIHI) (<http://lowimpacthydro.org/>) and adopted by Connecticut, Pennsylvania and other states.
- 2. Response to TransCanada Comments RPS Provisions – Class 1 (note: Bay State Hydropower has submitted similar comments).**

TransCanada suggests that “hydropower that has obtained a Section 401 certification by the applicable state agency should satisfy the RPS Environmental Standards.” We disagree.

The language in the Act cited above is designed to ensure that site-specific criteria for biodiversity protection are meaningfully considered, beyond water quality and with significant consultation with federal and state agencies. It is our interpretation that this includes not only the Federal Energy Regulatory Commission and the Massachusetts Department of Environmental Protection but also the Massachusetts Department of Fish and Game. Site-specific criteria provide stronger oversight than federal criteria; recent proposed federal regulatory changes, including the removal of interagency Section 7 consultation under the Endangered Species Act, are an example of the need for clarity in state law. In addition, as discussed below, current state law does not clearly enough include fisheries consultation in review of dam licenses.

The Department of Environmental Protection has adopted Surface Water Quality Standards, 314 CMR 4.00. The criterion for dams and flow within are not adequate to ensure healthy streams and rivers, and is considered an ongoing problem in Massachusetts. The 401 Water Quality Certification requirements cited by hydropower commenters do not address many impacts associated with dams and hydropower. The 401 Certification regulations at 314 CMR 9.00 only extend jurisdiction over new wetland filling >5,000 sf and dredging. They do not address modification of existing dams to retrofit them with hydropower, or the effects on fisheries of hydropower intakes and turbine operations. Nor do they address fish passage issues at dams, or water quality effects of impoundments. In addition, the Department of Environmental Protection does not have the biological expertise to analyze impacts to fish and other aquatic organisms. Mass Audubon suggests that the Department of Energy Resources consider the Low Impact Hydropower Institute certification standards, and require that each project is reviewed by both the Department of Environmental Protection and the Department of Fish and Game,

including the Riverways Program and the Division of Fisheries and Wildlife, and that equal weight is given to each Department.

- 3. For Class II hydroelectric,** Bay State Hydropower Association has submitted similar comments stating that existing regulatory structures meet the environmental criterion set forward in the *Green Communities Act*. The language in the Act is stronger, and therefore it is our position that additional regulation and oversight, as described above, are necessary.

Biomass

Comments submitted by Ellen Moyer on the Russell Biomass facility raise concerns regarding the carbon neutrality of that facility. This comment also applies more broadly to biomass in general. An analysis is needed regarding the net carbon effects of biomass facilities in Massachusetts, and this needs to be factored into the RPS standards and the Massachusetts Biomass Strategic Initiative¹. Studies by Harvard Forest and other scientists indicate that mature hardwood forests like those that presently dominate the Massachusetts landscape sequester carbon at higher rates than younger forests. Even sustainable, selective management of mature stands in Massachusetts may reduce carbon sequestration rates for five years or more. If most of the harvested material is processed into lumber that is used in durable products, and slash is left on the site to replenish soils, the net carbon sequestration effects of selective harvesting may be small. But, if whole trees are harvested and chipped, then burned in biomass plants, and/or if harvesting rates and methods substantially transform the present forest so that its sequestration rate is significantly reduced, the net effects of biomass facilities on greenhouse gases will be detrimental to the overall goals of the *Green Communities Act*.

Mass Audubon supports appropriate use of woody biomass as part of the overall energy mix. This could include use of waste wood from milling and land clearing operations. In general, smaller scale facilities that combine electric power production with productive use of heat from the plant should be preferred over large scale electric only facilities. The latter are low in efficiency and require very large supplies of biomass. The material will have to be obtained from a large geographic area; therefore substantial energy consumption for transportation is involved as well. Large biomass plants may also have other significant environmental impacts of concern including high levels of water consumption and air quality impacts.

The Massachusetts Biomass Strategic Initiative home webpage states that up to 4 million tons of woody biomass could be produced annually in Massachusetts, and that if half of this were utilized in production of electricity² then approximately 150 MW of generation capacity could be supported. However, an analysis by UMass scientists posted on the same webpage³ projects that the actual ecologically sustainable amount of woody biomass available from private and public lands is between 1/8th to less than 1/4 of the 4 million ton target cited by the Initiative, or approximately 500,000-900,000 tons per year. The proposed Biomass Initiative targets raise concerns regarding potential effects on management not only of private lands but also for the commonwealth's publicly protected conservation lands, particularly the Department of Conservation and Recreation's state forests and parks.

¹http://www.mass.gov/?pageID=eoeaterminal&L=4&L0=Home&L1=Energy%2c+Utilities+%26+Clean+Technologies&L2=Renewable+Energy&L3=Biomass&sid=Eoea&b=terminalcontent&f=doer_renewables_biomass_bioenergy_initiative&csi=d=Eoea

² It should be noted that woody biomass production also provides other uses for such material, such as lumber and mulch, so that in setting an overall target for harvesting forests in Massachusetts the full range of end uses must be considered.

³ <http://www.mass.gov/Eoea/docs/doer/renewables/biomass/bio-08-04-30-silvi-eco-forest-bio-harvest.pdf>

Conclusion:

Mass Audubon recommends that the DOER develop specific criteria and standards for hydropower to ensure they meet the environmental protection standards required in the *Green Communities Act*. We suggest application of the Low Impact Hydropower Institute standards and equal involvement of all relevant state agencies including the Department of Fish and Game to achieve this. We also recommend that DOER carefully evaluate the actual net carbon effects of biomass and implications for forest sustainability and forest related ecosystem service values including carbon sequestration in considering criteria for biomass eligibility under the RPS. Furthermore, the Commonwealth's policy, regulations, and plans for biomass and for forestry on public and private lands need to be coordinated in a coherent manner.

Thank you again for the opportunity to provide these comments. Please contact us with any questions.

Sincerely,



Jennifer Ryan
Legislative Director
617.750.0227



E. Heidi Ricci
Senior Policy Analyst
781.259.2172

cc: Bob O'Connor, EEA Director of Land Policy
DCR Commissioner Richard Sullivan
DFG Commissioner Mary Griffin

Protecting the Nature of Massachusetts